

Cancer in South Dakota 2002

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The South Dakota Cancer Registry (SDCR) will release its 2002 annual report this month. Hard copies will be available from the Health Department at 605-773-3787 or online at www.state.sd.us/doh/Pubs2/Cancer2002.pdf. This article contains cancer incidence, stage at diagnosis, mortality and behavioral data. Major findings were:

Incidence 2002

- ✓ 3,864 South Dakotans were diagnosed with invasive, reportable cases of cancer (This number excludes the less life-threatening cancers such as *in situ* except *in situ* bladders, and the common skin cancers.
- ✓ Approximately 10 South Dakotans were diagnosed with cancer each day.
- ✓ More than half, 54%, of all new cancers were diagnosed in males and 46% were in females.
- ✓ Males had an age-adjusted incidence rate of 579.1 cases per 100,000 males, 38.8% higher than females with an age-adjusted rate of 417.1 cases per 100,000 females.
- ✓ Whites accounted for 92% of cases with 3,566 cases whereas American Indians were 4.5% with 174 cases and other or unknown races were 5.5%.
- ✓ The American Indian age-adjusted incidence rate was 544.3, which is 15.7% higher than the rate among whites, 470.4 cases per 100,000 persons.
- ✓ The South Dakota age-adjusted incidence rate for 2002 was 484.9 cases, significantly higher than the U.S. SEER¹ rate of 458 cancers per 100,000 persons.

¹ SEER Surveillance Epidemiology and End Results
SEER Cancer Statistics Review, 1975-2002

- ✓ The top five cancer sites accounted for 63% of all cancer cases.

Table 1: Top five cancers diagnosed, South Dakota 2002

| Site | No. of Cases | Percent |
|-----------------|--------------|---------|
| Prostate | 673 | 17.4% |
| Breast (female) | 579 | 14.8% |
| Colorectal | 509 | 13.2% |
| Lung & bronchus | 444 | 11.5% |
| Bladder | 214 | 5.5% |

Source: South Dakota Department of Health

Incidence 2001-2002

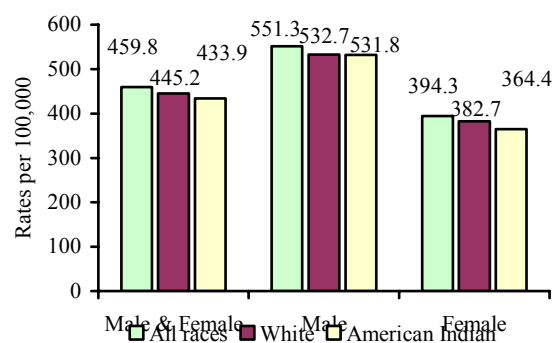
- ✓ Aggregated data for the two year period 2001-2002 shows an age-adjusted incidence rate of 459.8 cases per 100,000 persons.

Table 2: Top five cancers by race, South Dakota 2001-2002

| Whites | American Indian | |
|-----------------|-----------------|-----|
| | % cases | |
| Prostate | 18% | 15% |
| Breast (female) | 16% | 14% |
| Colorectal | 12% | 13% |
| Lung & bronchus | 12% | 11% |
| Bladder | 5% | 3% |

Source: South Dakota Department of Health

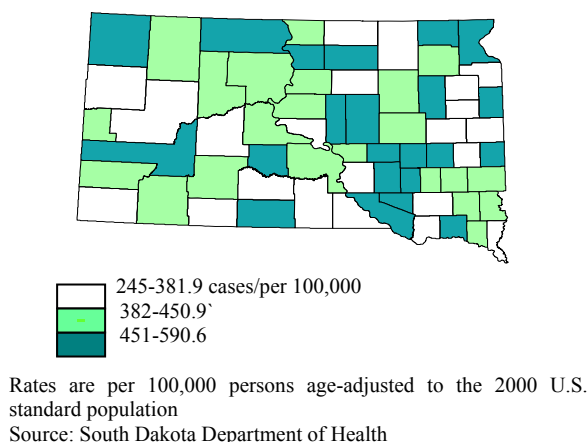
Figure 1: All cancers age-adjusted incidence rates by race, South Dakota 2001-2002



Note: Rates are age-adjusted to the 2000 U.S. standard population

Source: South Dakota Department of Health

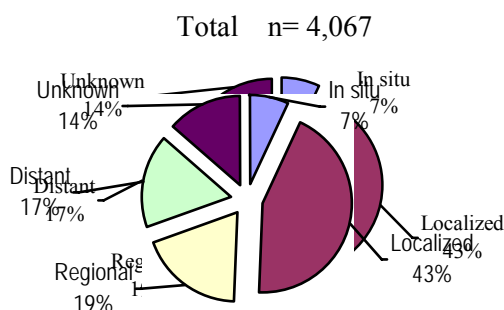
Figure 2: Cancer age-adjusted incidence rates by county, South Dakota 2001-2002



Stage at diagnosis 2002

- ✓ Fifty percent of all cancers in South Dakota were diagnosed at the early stages, *in situ* and localized stages.
- ✓ Thirty six percent were diagnosed at the late stages, regional and distant.
- ✓ Both whites and American Indians had 17% of cases diagnosed at distant stage.
- ✓ By gender, both male had females had 48% of cases at *in situ* and localized stages.

Figure 3: Stage at diagnosis all sites, South Dakota 2002



Source: South Dakota Department of Health

Mortality 2002

Death rates measure the burden of cancer among the population.

- ✓ Overall, cancer was the second leading cause of death in South Dakota.
- ✓ Cancer has surpassed heart disease as the leading cause of death for persons under 85 years old.
- ✓ 1,562 South Dakotans died from cancer
- ✓ Four South Dakotans died from cancer each day.
- ✓ Fifty one percent of all cancer deaths were males and 49% were females.
- ✓ Males had an age-adjusted death rate of 219.7 deaths per 100,000 males, 37% higher than females with an age-adjusted rate of 156.6 deaths per 100,000 females.
- ✓ South Dakota's death rate for 2002 was 181.9 deaths, lower than the U.S. SEER rate of 193.5 deaths per 100,000 persons.
- ✓ Whites accounted for 95% of deaths with 1,489 deaths and American Indians 4.5% with 70 deaths.
- ✓ The top five cancer sites causing death accounted for 56% of all cancer deaths.

Table 2: Top five cancer deaths, South Dakota 2002

| Site | Deaths | Percent |
|-----------------|--------|---------|
| Lung & bronchus | 399 | 25.8% |
| Colorectal | 170 | 10.8% |
| Prostate | 110 | 7 % |
| Breast female | 109 | 7 % |
| Pancreas | 86 | 5.4% |

Source: South Dakota Department of Health

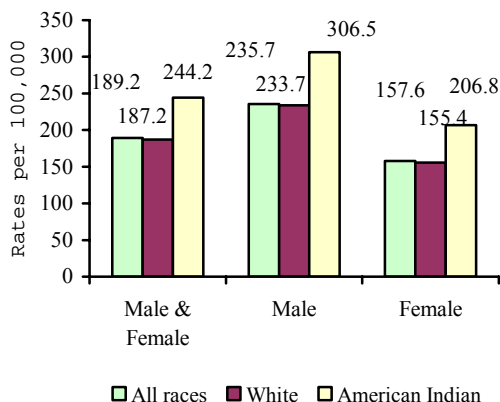
Mortality 1998-2002

- ✓ The age-adjusted death rate for 1998-2002 was 189.2 deaths compared to a

five-year U.S. SEER rate of 197.8 deaths per 100,000 persons.

- ✓ For the period 1998-2002, the American Indian age-adjusted death rate of 244.2 deaths was 30% higher than the white rate of 187.2 deaths per 100,000.

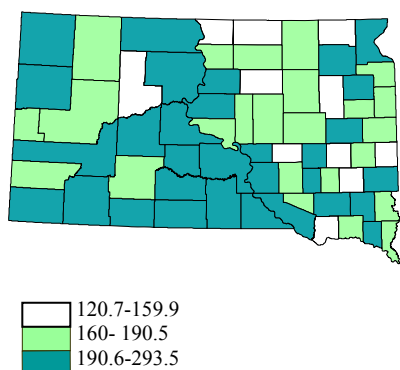
Figure 4: Age-adjusted death rates, South Dakota 1998-2002



Note: rates are age-adjusted to the 2000 U.S. standard population
Source: South Dakota Department of Health

- ✓ American Indians had higher death rates for the five-year period among males and females than whites.
- ✓ Eleven counties attained the Healthy People 2010 objective of 159.9 deaths per 100,000 persons (white on map).

Figure 5: All sites age-adjusted cancer death rates in South Dakota, 1998-2002



Notes: Healthy People 2010 Objective is 159.9 cancer deaths per 100,000 persons.

Rates are per 100,000 persons and age-adjusted to the 2000 U.S. standard population.

Source: South Dakota Department of Health

Trends in Mortality 1998-2002

- ✓ South Dakota's all sites combined cancer death rates fell by -4.8% from 1998 to 2002 with a PC of -4.8 for males and -6.1 for females.
- ✓ The death rate fell by an annual percent change (APC) of -1.5 during 1998-2002 with an APC of -.2 for males and -1.9 for females.
- ✓ The PC for whites was -4.6 and -4.2 for American Indians.
- ✓ The APC was -1.5 for whites and 0.5 for American Indians

Mortality/Incidence ratio (M/I)

- ✓ The mortality to incidence ratio (M/I) or case fatality overall was 0.4. It was 0.4 for both males and females.
- ✓ Liver and intra-hepatic bile duct cancers were by far the most lethal cancer with an overall M/I of 2.1, 1.6 for males and 3 for females.
- ✓ Among gender related cancers, ovarian cancer was the highest for females with an M/I of 1.0, the third highest M/I overall in rank, and for males, prostate cancer was 0.2 at the lower end of the ranking.

Years of potential life lost (YPLL), 2002, 1998-2002

YPLL measures the burden of a disease among younger populations.

- ✓ The cancer age-adjusted YPLL for South Dakota for 1998-2002 was 1,482 years/100,000 persons, the highest of all causes of deaths in South Dakota.
- ✓ American Indians had the highest age-adjusted YPLL rate with 1,894 years for the five-year period, 1998-2005 while

whites were 1,469 years per 100,000 persons.

- ✓ The cancer YPLL was 9,977 years, the highest for all causes of deaths in 2002.
- ✓ Lung and bronchus cancers had the highest (not age-adjusted) YPLL with 2,295 year for whites and 139 years for American Indians in 2002

Average Years of Life Lost (AYLL) 2002

- ✓ By rank, after childhood cancers, AYLL data shows that American Indians are dying at a much younger age than whites for many cancers.
- ✓ Cervical cancer had the leading AYLL for 2002 after childhood cancers for white women with 21.7 years and American Indian women 53.0 years.

Early Detection for Screenable Cancers²

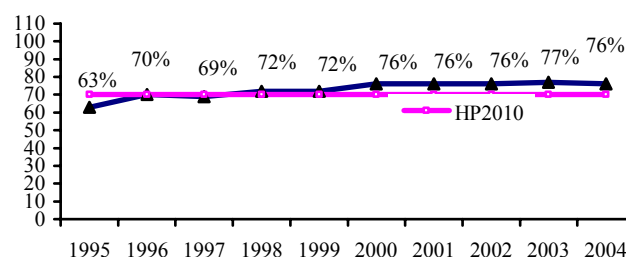
Prostate cancer

On 2004, 53% of men age 40 and over had a PSA within the past 2 years was 53 percent in 2004. The BRFSS has not included questions about prostate cancer for many years hence there are no trend data presented. In addition, there are no Healthy People 2010 objectives for prostate cancer because there are no clear screening guidelines.

Breast cancer

Screening has achieved the Healthy People 2010 Objective of a 70% mammography screening rate. However, the rate has been essentially flat for the past five years.

Figure 6: Trends in mammography screening*, South Dakota 1995-2004

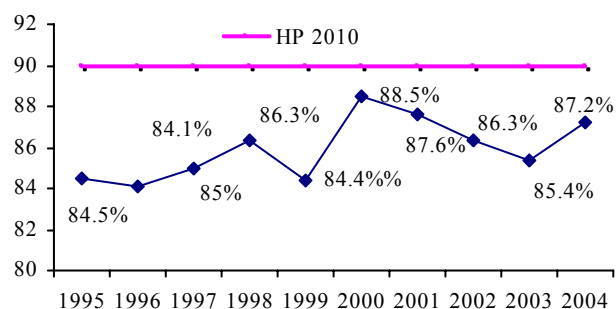


* Women age 40 and older

Cervical cancer

South Dakota has not achieved the Healthy People 2010 objective of 90% of women aged 18 and over who receiving a Pap smear within the preceding three years.

Figure 7: Trends in Pap screening* South Dakota 1995-2004



*Women with intact uterus aged 18 and over

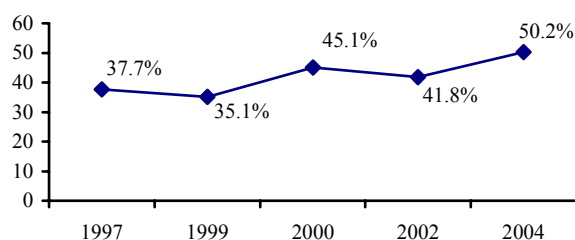
Colorectal cancer

The Healthy People 2010 Objective 3-12 is that 50% of adults receive a fecal occult blood test (FOBT) within the preceding 2 years and that 50% of adults receive sigmoidoscopy or colonoscopy within the preceding 2 years.

In 2004, 24% of South Dakota adults aged 50 plus had a blood stool test.

² Source <http://apps.nccd.cdc.gov/brfss/>
Accessed September 26, 2005

Figure 8: Trends in colorectal cancer screening,* South Dakota 1995-2004



*Percentage who ever had a sigmoidoscopy or colonoscopy. Approximately 62-65 % of those who were screened from 1999 -2004 were screened within the preceding two years of the survey.

Behavioral Risk Factors

Tobacco use, a diet high in fat and low in grains, and lack of exercise are risk factors for approximately 30% each of all cancers. The BRFSS tracks alcohol, tobacco, consumption of fruits and vegetables and physical activity. It also tracks socio-economic factors such as poverty and education. The following BRFSS data highlight these risk factors.³

Tobacco use

Current smokers - 20.8% of South Dakotans reported in 2004 that they currently smoke, a 10.5% decrease from 2003. The Healthy People 2010 Objective is 12% and the Health Department's 2010 Initiative is 18%.
Never smoked – 56% of respondents reported never smoking in 2004, a 7.6% increase from 2003.

Alcohol use

Binge drinking - 16.9% reported binge drinking in 2004, an 11% decrease from 2003. Binge drinking is 5 or more drinks on one occasion. The Healthy People 2010 Objective is 6%.

Heavy drinking - 3.7% of adults reported heavy drinking in 2004, a 22% decrease

from 2003. This data measures men having more than two drinks and women having more than one drink per day.

Physical activity

Eighty-one percent reported taking part in physical activity in 2004, a 3.4% increase from 2003.

Fruits and vegetables

In 2003, 20.3% of respondents ate ≥ 5 fruits and vegetables per day.

Overweight/Obesity⁴

In 2003, 21.2% of respondents were obese (i.e., BMI ≥ 30) and 39.4% were overweight, (BMI 25-29.9).

Health Coverage

In 2004, 89.5% of respondents reported having health coverage, a slight increase from 88.3% in 2003.

Socio-economic factors

Income and high school graduation levels are the socio-economic factors usually correlated to health status. For example;

High school graduation – 65% of women who did not graduate from high school had mammograms in 2004 while 80.2% of those with college education had mammograms.

Income – 63% of those earning less than \$15,000 annually had mammograms compared to 80.4% of those earning $>$ \$50,000 annually.

- ✓ In 2004, 9.4% of South Dakota households earned less than \$15,000 annually.
- ✓ Of those without a high school diploma, 28.5% earned less than \$15,000.
- ✓ Thirty-six percent earned between \$15,000 and \$29,999 annually.

³ <http://apps.nccd.cdc.gov/brfss/index.asp>
 accessed 2 September 2005

⁴ The Health Behaviors of South Dakotans 2003
 South Dakota Department of Health